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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,137	11/28/2001	Ming-Chih Chang	B-4394 619332-2	3414

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EXAMINER

DIVECHA, KAMAL B

ART UNIT	PAPER NUMBER
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2151

DATE MAILED: 08/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/997,137

Applicant(s)

CHANG ET AL.

Examiner

KAMAL B. DIVECHA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 10-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 10-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

RD

Response to Arguments

Claims 1-6 and 10-13 are pending in the present application.

Applicant has cancelled claims 7-9 in response filed on July 15, 2005.

Applicant has amended claims 1, 3, 4, 10, 12 and 13. Therefore, Examiner withdraws the claim objection and 35 USC 2nd paragraph rejections made the office action mailed on April 15, 2005.

Applicant's arguments with respect to claims 1-6 and 10-13 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being obvious over Blumenau et al., (hereinafter Blumenau, U. S. Patent No. 6,421,711 B1) in view of Knox et al., (hereinafter

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Knox, U. S. Patent No. 5,872,968), and further in view of Kopsaftis (U. S. Patent No. 5,659,801).

As per claim 1, Blumenau discloses a centralized network storage system (fig. 1 item #20), comprising: at least one diskless client (fig. 1 item #22-25 and col. 32 L32-36); a server, connected to the at least one diskless client, comprising a centralized storage device divided into at least one storage area (fig. 1 item #20 and #26), each of which respectively corresponds to each of the clients (col. 12 L2-5; col. 13 L2-6); wherein, after receiving and unpacking the package to retrieve, the hard disk access command contained therein, the server implements a requested disk access process to execute a read or write operation corresponding to the hard disk access command on the storage area relative to the diskless client represented by an identity number contained in the package (col. 7 L21-39), however, Blumenau does not explicitly disclose a transforming device (read as an interface device), which receives a hard disk access command from the diskless client and packs the hard disk access command and an identity number relative to the diskless client into a package, wherein the hard disk access command complies with a peripheral interface standard allowing connection of a peripheral device to a PC.

Knox, from the same field of endeavor, explicitly discloses diskless clients (fig. 1 item #30, 32 and col. 1 L23-33 and col. 3 L49-52), comprising an interface card or adapter (read as transforming device, fig. 1 item #38 and col. 3 L52-53), which receives a hard disk access command from the client and packs the command and an identify number relative to the client into a package (col. 4 L9-17, L30-43: Knox implicitly teaches receiving an access command and packing it with an identifier into a packet). Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Knox

as stated above with the Blumenau's system in order to include a transforming device that receives a hard disk access command from the client and packs the command and an identify number relative to the client into a package.

One of ordinary skilled in the art would have been motivated because it would have enabled and allowed communications between client and server (Knox, col. 3L55-56 and L19-22), however Knox does not explicitly disclose the process wherein the hard disk access command complies with a peripheral interface standard allowing connection of a peripheral device to a PC. Kopsaftis, from the same field of endeavor explicitly discloses a central storage system comprising diskless clients (fig. 1) and the process of packing the hard disk access command and the identity number relative to the diskless client (read as clients address) into a packet wherein the hard disk access command complies with a peripheral interface standard allowing connection of a peripheral device to a PC (col. 2 L4-47, col. 4 L3 to col. 5 L62, fig. 2). Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Kopsaftis as stated above with Blumenau in order to pack the hard disk access command and an identity number relative to client into a package, wherein the hard disk access command complies with a peripheral interface standard allowing connection of a peripheral device to a PC. One of ordinary skilled in the art would have been motivated so that the system would have been able to perform the requested access by the diskless client (Kopsaftis, col. 2 L6-10).

As per claim 5, Blumenau discloses the system wherein the diskless clients are connected to the server through an Ethernet protocol (fig. 1 and col. 8 L12-17).

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2. Claims 2-4 and 6 are rejected under 35 U.S.C. 103(a) as being obvious over Blumenau et al., (hereinafter Blumenau, U. S. Patent No. 6,421,711 B1) in view of Knox et al (hereinafter Knox, U. S. Patent No. 5,872,968), further in view of Kopsaftis (U. S. Patent No. 5,659,801), and further in view of Kedem et al., (hereinafter Kedem, U. S. Patent No. 6,477,624 B1).

As per claim 2, Blumenau, Knox and Kopsaftis does not disclose the system wherein an interface card (transforming device) is installed in an expansion slot of the diskless client.

Kedem, from the same field of endeavor, explicitly discloses a system wherein an interface card is installed in an expansion slot of the network computer (col. 11 L15-24 and col. 10 L35-45).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Kedem as stated above with Blumenau, Knox and Kopsaftis in order to install the interface card in an expansion slot of the computer.

One of ordinary skilled in the art would have been motivated because it would have allowed an interface card and/or transforming device (known as LDIM card in the reference) to monitor all the information being transmitted by central processing unit (Kedem, col. 12 L3-5).

As per claim 3, Blumenau, Knox and Kopsaftis does not disclose the system wherein the expansion slot is an IDE slot. Kedem, from the same field of endeavor, explicitly discloses a system wherein the expansion slot is an IDE slot (col. 11 L55-58). Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Kedem as stated above with Blumenau, Knox and Kopsaftis in order to use IDE expansion slot of a network computer. One of ordinary skilled in the art would have been motivated because of the same reasons as set forth above in claim 2.

As per claim 4, Blumenau, Knox and Kopsaftis does not disclose the system wherein the expansion slot is a PCI slot. Kedem, from the same field of endeavor, explicitly discloses a system wherein the expansion slot is a PCI slot (col. 11 L58-61). Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Kedem as stated above with Blumenau, Knox and Kopsaftis in order to use PCI expansion slot of a network computer. One of ordinary skilled in the art would have been motivated because it would have provided a network connection such as Ethernet for connecting to external devices (Kedem, col. 11 L58-60).

As per claim 6, Blumenau, Knox and Kopsaftis does not disclose a system wherein the diskless clients are connected to the server through a wireless transmission protocol. Kedem, from the same field of endeavor, explicitly shows a system wherein a network computer (read as diskless client and known as LDIM) can be connected to the server (known as RDIM in the reference) through a wireless network (col. 8 L29-33 and fig. 2). Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Kedem as stated above with Blumenau, Knox and Kopsaftis in order to connect the clients to the server through a wireless transmission protocol. One of ordinary skilled in the art would have been motivated because it would have provided a convenient means of communication between a client/server architecture.

3. Claims 10-13 are rejected under 35 U.S.C. 103(a) as being obvious over Kedem et al., (hereinafter Kedem, U. S. Patent No. 6,477,624 B1) in view of Kopsaftis (U. S. Patent No. 5,659,801).

As per claim 10, Kedem discloses a transforming device used in centralized network storage system and installed in a diskless client (fig. 2 item #202, fig. 3 item #202 and fig. 4 item #202), comprising: an interface circuit, **used** to receive a hard disk access command from the diskless client (fig. 3 item #312, fig. 4 item #401, col. 10 L58-62 and col. 13 L60-65; col. 8 L43-66); a logical circuit, connected to the interface circuit to receive a hard disk access command (fig. 3 item #310 and fig. 4 item #406); and a network controller, connected to the logical circuit to receive the package and deliver it to networks (fig. 4 item #402), however, Kedem does not explicitly teach the process of packing the command or a request and an identifier number unique to the diskless client into a package.

Kopsaftis, from the same field of endeavor explicitly discloses the logical circuit for packing both the hard disk command and an identity number unique to the diskless client into a package (fig. 2, col. 2 L4-47 and col. 4 L3 to col. 5 L62). Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Kedem in order to include the process of packing both the command and identifier relative to client into a packet in view of Kopsaftis, since Kopsaftis teaches the process of packing or preparing the packet with the hard disk command and an identifier.

One of ordinary skilled in the art would have been motivated because it is well known that the command and the identifier would be packed into a packet and transmitted to the attached disk or hard drive or remote server in order to perform the task.

As per claim 11, Kedem discloses the transforming device is an interface card installed in an expansion slot of the diskless client (col. 11L16-20).

As per claim 12, Kedem discloses a device wherein the expansion slot is an IDE slot and the interface circuit receives the hard disk access command through the IDE slot (col. 11L16-58).

As per claim 13, Kedem discloses a device wherein the expansion slot is a PCI slot (col. 11 L58-61), however, Kedem does not explicitly disclose the process wherein the interface circuit receives the hard disk access command through the PCI slot. But, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Kedem to receive the command through the PCI slot of the computer system. One of ordinary skilled in the art would have been motivated because it would have provided an interface between the client (administrator or user) and the system and would have further provided a means for communications.

Additional References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Keller, U. S. Patent No. 6,553,430 B1.
- b. Gulick, U. S. Patent No. 6,421,751 B1.
- c. Cooper et al., U. S. Patent No. 5,809,527.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Flex schedule 8 hr days (10.00am-6.30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 26, 2005.


ZARNI MAUNG
SUPERVISORY PATENT EXAMINER